AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently amended): [[A]] An isolated nucleic acid molecule comprising a nucleic acid sequence which encodes a polypeptide selected from ~~any one of~~:

(a) SEQ ID No: 14;

(b) an immunogenic fragment comprising at least 50 consecutive amino acids from ~~a polypeptide of (a); and~~ SEQ ID No:14.

~~(c) a polypeptide of (a) or (b) which has been modified without loss of immunogenicity, wherein said modified polypeptide is at least 75% identical in amino acid sequence to the corresponding polypeptide of (a) or (b).~~

Claim 2 (Currently amended): An isolated ~~and purified~~ nucleic acid molecule comprising a nucleic acid sequence selected from ~~any one of~~:

(a) SEQ ID No: 1;

(b) a sequence which encodes ~~a polypeptide as set forth in~~ SEQ ID No:14;

(c) at least 38 consecutive nucleotides from SEQ ID No: 1; and

~~(d) a sequence which encodes a polypeptide which is at least 75% identical in amino acid sequence to SEQ ID No:14; and~~

~~(e)~~ (d) a sequence comprising at least 100 consecutive nucleotides from ~~a nucleic acid sequence of~~ (b).

Claim 3 (Currently amended): [[A]] An isolated nucleic acid molecule comprising a nucleic acid sequence which is anti-sense to the nucleic acid molecule of claim 1.

Claim 4 (Currently amended): A nucleic acid molecule comprising a nucleic acid sequence which encodes a fusion protein, said fusion protein comprising a polypeptide encoded by [[a]] the nucleic acid molecule ~~according to~~ of claim 1 and a second polypeptide.

Claim 5 (Previously presented): The nucleic acid molecule of claim 4 wherein the second polypeptide is a heterologous signal peptide.

Claim 6 (Previously presented): The nucleic acid molecule of claim 4 wherein the second polypeptide has adjuvant activity.

Claim 7 (Currently amended): [[A]] The nucleic acid molecule ~~according to~~ of claim 1, operatively linked to one or more expression control sequences.

Claim 8 (Currently amended): ~~An immunogenic composition comprising a~~ A vaccine vector ~~and~~ comprising at least one nucleic acid selected from ~~any one of~~:

(i) SEQ ID No: 1;

(ii) a nucleic acid sequence comprising at least 38 consecutive nucleotides from SEQ ID No:1;

~~(iii) a nucleic acid sequence which encodes a polypeptide which is at least 75% identical in amino acid sequence to SEQ ID No:14;~~

~~(iv)~~ (iii) a nucleic acid sequence which encodes ~~a polypeptide whose sequence is set forth in~~ SEQ ID No: 14; and

~~(v)~~ (iv) a nucleic acid sequence which encodes an immunogenic fragment comprising at least 12 consecutive amino acids from SEQ ID No: 14;

wherein the at least one nucleic acid is capable of being expressed.

Claim 9 (Currently amended): ~~An immunogenic composition comprising a~~ A vaccine vector ~~and~~ comprising at least one nucleic acid encoding a fusion protein, wherein the fusion protein comprises:

(a) a first polypeptide selected from ~~any one of~~:

~~(i) a polypeptide which is at least 75% identical in amino acid sequence to SEQ ID No:14;~~

~~(ii)~~ (i) a polypeptide whose sequence is set forth in SEQ ID No: 14; and

~~(iii)~~ (ii) an immunogenic fragment comprising at least 12 consecutive amino acids from SEQ ID No: 14;

and,

(b) a second polypeptide;

wherein the at least one nucleic acid is capable of being expressed.

Claim 10 (Currently amended): The ~~immunogenic composition~~ vaccine vector of claim 9 wherein the second polypeptide is a heterologous signal peptide.

Claim 11 (Currently amended): The ~~immunogenic composition~~ vaccine vector of claim 9 wherein the second polypeptide has adjuvant activity.

Claim 12 (Currently amended): The ~~immunogenic composition~~ vaccine vector of claim 8 wherein each of the at least one nucleic acid is operatively linked to one or more expression control sequences.

Claim 13 (Currently amended): The ~~immunogenic composition~~ vaccine vector of claim 8 wherein ~~each~~ the at least one nucleic acid is expressed as a first polypeptide, and wherein the ~~immunogenic composition~~ vaccine vector further comprises an additional nucleic acid encoding an additional polypeptide which enhances the immune response to the first polypeptide ~~expressed by the nucleic acid defined in claim 8~~.

Claim 14 (Currently amended): The ~~immunogenic composition~~ vaccine vector of claim 13 wherein the additional polypeptide ~~is~~ comprises a *Chlamydia* polypeptide.

Claim 15 (Currently amended): A pharmaceutical composition comprising [[a]] the nucleic acid ~~according to~~ of claim 1 and a pharmaceutically acceptable carrier.

Claim 16 (Currently amended): A pharmaceutical composition comprising the ~~immunogenic composition according to~~ vaccine vector of claim 8 and a pharmaceutically acceptable carrier.

Claim 17 (Previously presented): A unicellular host transformed with the nucleic acid molecule of claim 7.

Claim 18 and 19 (Canceled)

Claim 20 (Withdrawn – Currently amended): [[A]] An isolated polypeptide encoded by [[a]] the nucleic acid ~~sequence according to~~ molecule of claim 2.

Claim 21 (Withdrawn - Currently amended): [[A]] An isolated polypeptide comprising an amino acid sequence selected from ~~any one of~~:

(a) SEQ ID No: 14; and

(b) an immunogenic fragment comprising at least 12 consecutive amino acids from ~~a polypeptide of (a); and~~ SEQ ID No:14.

~~(c) a polypeptide of (a) or (b) which has been modified without loss of immunogenicity, wherein said modified polypeptide is at least 75% identical in amino acid sequence to the corresponding polypeptide of (a) or (b).~~

Claim 22 (Withdrawn - Currently amended): A fusion protein comprising [[a]] the polypeptide of claim 21 and a second polypeptide.

Claim 23 (Withdrawn): The fusion protein of claim 22 wherein the second polypeptide is a heterologous signal peptide.

Claim 24 (Withdrawn): The fusion protein of claim 22 wherein the second polypeptide has adjuvant activity.

Claim 25 (Currently amended): A method for producing [[a]] the polypeptide of claim 21, comprising the step of culturing a unicellular host transformed with a nucleic acid encoding [[a]] the polypeptide of claim 21.

Claim 26 (Withdrawn): An antibody against the polypeptide of claim 21.

Claim 27 (Withdrawn - Currently amended): A vaccine comprising at least one first polypeptide selected from ~~any one of~~:

~~(i) a polypeptide encoded by SEQ ID No: 1;~~

~~(ii) a polypeptide encoded by a nucleic acid sequence comprising at least 38 consecutive nucleotides from SEQ ID No: 1;~~

~~(iii) a polypeptide which is at least 75% identical in amino acid sequence to the polypeptide encoded by SEQ ID No: 1;~~

~~(iv)~~ (i) a polypeptide whose sequence is set forth in SEQ ID No: 14; and

~~(v)~~ (ii) an immunogenic fragment comprising at least 12 consecutive amino acids from SEQ ID No: 14.~~; and~~

~~(vi) a polypeptide as defined in (i) to (iv) or an immunogenic fragment as defined in (v) which has been modified without loss of immunogenicity, wherein said modified polypeptide or fragment is at least 75% identical in amino acid sequence to the corresponding polypeptide of (i) to (iv) or the corresponding fragment of (v).~~

Claim 28 (Withdrawn - Currently amended): A vaccine comprising at least one fusion protein, wherein the fusion protein comprises:

(a) a first polypeptide selected from ~~any one of~~:

~~(i) a polypeptide encoded by SEQ ID No: 1;~~

~~(ii) a polypeptide encoded by a nucleic acid sequence comprising at least 38 consecutive nucleotides from SEQ ID No: 1;~~

~~(iii) a polypeptide which is at least 75% identical in amino acid sequence to the polypeptide encoded by SEQ ID No: 1;~~

~~(iv)~~ (i) a polypeptide whose sequence is set forth in SEQ ID No: 14; and

~~(v)~~ (ii) an immunogenic fragment comprising at least 12 consecutive amino acids from SEQ ID No: 14; and

~~(vi) a polypeptide as defined in (i) to (iv) or an immunogenic fragment as defined in (v) which has been modified without loss of immunogenicity, wherein said modified polypeptide or fragment is at~~

~~least 75% identical in amino acid sequence to the corresponding polypeptide of (i) to (iv) or the corresponding fragment of (v); and~~

(b) a second polypeptide.

Claim 29 (Withdrawn): The vaccine of claim 28 wherein the second polypeptide is a heterologous signal peptide.

Claim 30 (Withdrawn): The vaccine of claim 28 wherein the second polypeptide has adjuvant activity.

Claim 31 (Withdrawn): A vaccine comprising at least one first polypeptide according to claim 20 and an additional polypeptide which enhances the immune response to the first polypeptide.

Claim 32 (Withdrawn): The vaccine of claim 31 wherein the additional polypeptide comprises a *Chlamydia* polypeptide.

Claim 33 (Withdrawn - Currently amended): A pharmaceutical composition comprising [[a]] the polypeptide according to claim 20 and a pharmaceutically acceptable carrier.

Claim 34 (Withdrawn -Currently amended): A pharmaceutical composition comprising [[a]] the vaccine according to claim 27 and a pharmaceutically acceptable carrier.

Claim 35 (Withdrawn - Currently amended): A pharmaceutical composition comprising [[an]] the antibody according to claim 26 and a pharmaceutically acceptable carrier.

Claim 36 (Withdrawn - Currently amended): A method for preventing or treating *Chlamydia* infection comprising administering to a patient an effective amount of:

(a) the nucleic acid ~~according to~~ of claim 2;

(b) an immunogenic composition comprising a vaccine vector and at least one nucleic acid ~~according to~~ of claim 2;

(c) a pharmaceutical composition comprising the nucleic acid ~~according to~~ of claim 2 and a pharmaceutically acceptable carrier;

(d) a polypeptide encoded by [[a]] the nucleic acid sequence ~~selected from any one of~~ of claim 2:

~~(i) SEQ ID No: 1;~~

~~(ii) a sequence which encodes a polypeptide as set forth in SEQ ID No:14;~~

~~(iii) at least 38 consecutive nucleotides from SEQ ID No: 1;~~

~~(iv) a sequence which encodes a polypeptide which is at least 75% identical in amino acid sequence to SEQ ID No:14; and~~

~~(v) a sequence comprising at least 100 consecutive nucleotides from a nucleic acid sequence of (ii);~~

or,

(e) an antibody against the polypeptide defined in (d).

Claim 37 (Withdrawn - Currently amended): A method of detecting *Chlamydia* infection comprising the step of assaying a body fluid of a mammal to be tested, with a component selected from ~~any one of~~:

(a) [[a]] the nucleic acid ~~according to~~ of claim 2;

(b) a polypeptide encoded by [[a]] the nucleic acid ~~according to~~ of claim 2; and

(c) an antibody against [[a]] the polypeptide ~~encoded by a nucleic acid according to claim 2~~ defined in (b).

Claim 38 (Withdrawn - Currently amended): A diagnostic kit comprising instructions for use and a component selected from ~~any one of~~:

(a) [[a]] the nucleic acid ~~according to~~ of claim 2;

(b) [[a]] the polypeptide encoded by [[a]] the nucleic acid ~~according to~~ of claim 2; and

(c) an antibody against [[a]] the polypeptide ~~encoded by a nucleic acid according to claim 2~~ defined in (b).

Claims 39 - 78 (Cancelled)

Claim 79 (Currently amended): The isolated ~~and purified~~ nucleic acid molecule of claim 2, comprising a nucleic acid sequence selected from ~~any one of~~:

(a) SEQ ID No: 1; and

(b) a sequence which encodes ~~a polypeptide as set forth in~~ SEQ ID No:14~~;~~

~~(c) at least 38 consecutive nucleotides from SEQ ID No: 1; and~~

~~(d) a sequence comprising at least 100 consecutive nucleotides from a nucleic acid sequence of (b) sequence which encodes SEQ ID No:14~~.

Claim 80 (Currently amended): ~~The immunogenic composition of claim 8 comprising a vaccine vector and at least one nucleic acid selected from any one of~~ The vaccine vector of claim 8 wherein the at least one nucleic acid is selected from:

(i) SEQ ID No: 1; and

~~(ii) a nucleic acid sequence comprising at least 38 consecutive nucleotides from SEQ ID No:1;~~

~~(iii)~~ (ii) a nucleic acid sequence which encodes ~~a polypeptide whose sequence is set forth in~~ SEQ ID No: 14~~; and~~

~~(iv) a nucleic acid sequence which encodes an immunogenic fragment comprising at least 12 consecutive amino acids from SEQ ID No: 14; wherein the at least one nucleic acid is capable of being expressed~~.

Claim 81 (New): The isolated nucleic acid molecule of claim 2, comprising a nucleic acid sequence selected from:

(a) at least 38 consecutive nucleotides from SEQ ID No: 1; and

(b) a sequence comprising at least 100 consecutive nucleotides from a sequence which encodes SEQ ID No:14.

Claim 82 (New): The vaccine vector of claim 8 wherein the at least one nucleic acid is selected from:

(i) a nucleic acid sequence comprising at least 38 consecutive nucleotides from SEQ ID No:1; and

(ii) a nucleic acid sequence which encodes an immunogenic fragment comprising at least 12 consecutive amino acids from SEQ ID No: 14.

Claim 83 (New): The vaccine vector of claim 8 wherein the at least one nucleic acid is operably linked to a viral promoter functional in a mammalian cell.